

Work Order ID 147247

Wednesday, April 05, 2017 2:49:22 PM

147247*Reprint*
DAS
21
9-89

Page 1

Item ID: D044-715-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: R44 Cargo Mirror

Start Date: 4/6/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/13/2017 Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED

DAS
21
9-89

Approvals: Process Plan:

Date: APR 05 2017

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3243

Rev A

IIN-D044-715

Rev A

APR 06 2017
DAS
6
9-89

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPPD044-715-011 CHG003

DAS
28
9-89

APR 08 2017

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

DAS
6
9-89

APR 07 2017

DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Work Order ID 147247

Wednesday, April 05, 2017 2:49:22 PM

147247

Page 2

Item ID: D044-715-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: R44 Cargo Mirror
Start Date: 4/6/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 4/13/2017 Req'd Qty: 1.00 *1* Customer:
Reference: SCHEDULED

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC4- 100% Inspect kits for completeness	0.03							
120									
QC	Memo	0.00							
Quality Control									
130		0.00							
130	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D044-715-011 LOCATION: FG011								
140	QC21- Final Inspection - Work Order Release	0.10							
140									
QC	Memo	0.10							
Quality Control									

DAS 28 9-89 APR 08 2017

DAS 28 9-89 APR 08 2017

DAS 21 9-89 APR 10 2017

DAS 21 9-89 APR 10 2017

Picklist Print

Wednesday, April 05, 2017 2:49:27 PM

Page 1

Work Order ID: 147247

147247

Parent Item: D044-715-011

D044-715-011

Parent Item Name: R44 Cargo Mirror

Start Date: 4/6/2017

Required Date: 4/13/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A04.02.18New issueKJ/JLM
IPP Rev:B 06-04-28 Manufactured on Water Jet JLM
IPP Rev:C 08-06-10 as per ECN1195p DD verified by:EC IPP Rev:D
11.05.04 remove FE-032-EF DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3243-041 *D3243-041* Bracket		Manufactured	No			110	Each	3.0000	1	1			
									**			DAS 6 9-89	DAS 27 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				ST486				3					
				150498				3					
D1048 *D1048* Clamp		Manufactured	No			110	Each	17.0000	2	2			
									**			DAS 6 9-89	DAS 27 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				GA				17					
				148270				17					
D1049 *D1049* Saddle		Manufactured	No			110	Each	19.0000	2	2			
									**			DAS 6 9-89	DAS 27 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				GA				19					
				148238				4					
				152191				5					
				158493				10					

Picklist Print

Wednesday, April 05, 2017 2:49:27 PM

Page 2

Work Order ID: 147247

147247

Parent Item: D044-715-011

D044-715-011

Parent Item Name: R44 Cargo Mirror

Start Date: 4/6/2017

Required Date: 4/13/2017

Start Qty: 1.00

Required Qty: 1.00

D2010-104

Manufactured No

110

Each

7.0000

1

1

D2010-104

ARM

**

DAS
6
9-89

DAS
27
9-89
APR 07 2017

Location

Loc Qty

Loc Code

ST351

7

152158

3

156194

4

D2011-101

Manufactured No

110

Each

13.0000

1

1

D2011-101

Mirror 6"

**

DAS
6
9-89

DAS
27
9-89
APR 07 2017

Location

Loc Qty

Loc Code

FG

1

106348

1

ST384

12

154144

1

154437

11

AN3-4A

Purchased No

110

Each

222.0000

4

4

AN3-4A

Bolt

**

DAS
6
9-89

DAS
27
9-89
APR 07 2017

Location

Loc Qty

Loc Code

ST350

222

m136579

222

AN526C1032R10

Purchased No

110

Each

47.0000

4

4

AN526C1032R10

Screw

**

DAS
6
9-89

DAS
27
9-89
APR 07 2017

Location

Loc Qty

Loc Code

ST326

47

m135133

47

Wednesday, April 05, 2017 2:49:27 PM

Shop Packet Print

Page 2

Picklist Print

Wednesday, April 05, 2017 2:49:27 PM

Page 3

Work Order ID: 147247

147247

Parent Item: D044-715-011

D044-715-011

Parent Item Name: R44 Cargo Mirror

Start Date: 4/6/2017

Required Date: 4/13/2017

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130 AELS4-1032-130 Purchased

No

110

Each

3,724.000

4

4

ALS4-1032-130

Rivnut

**

DAS 6 28 9-89
APR 07 2017 27 9-89

Location

Loc Qty

Loc Code

CCK007

3542

M136579

3542

FG

50

FG

M135442

50

FP001

132

M133077

72

M135442

60

NAS1149D0332J Purchased

No

110

Each

1,636.000

4

4

NAS1149D0332J

Washer

**

DAS 6 28 9-89
APR 07 2017 27 9-89

Location

Loc Qty

Loc Code

FP

22

m136015

22

GA

522

m136643

522

ST260a

1000

m137075

1000

ST264

92

m136015

92

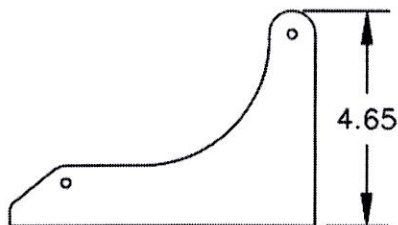
Wednesday, April 05, 2017 2:49:27 PM

Shop Packet Print

Page 3



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3243	REV. A SHEET 1 OF 1
DATE 04.01.09		TITLE BRACKET	SCALE 1:2
A	04.01.09	NEW ISSUE	



R0.188 (TYP)



D3243-1 BEND DETAIL/
D3243-041 ASSEMBLY
SCALE 1:4

INSTALL
FE-032-EF INSERTS
(4 PLACES)

2.75 $+0.030$
0.000

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 143847 MJS
17-04-05

RELEASED
04.02.03

8.581
8.206
7.706

GRAIN
DIRECTION

11.920
11.420

Ø0.201
(TYP 4
PLACES)

Ø0.290
(TYP 4
PLACES)

1.375

5.273

3.714

**D3243-041 BRACKET ASSEMBLY
(D3243-1 BRACKET)**

- 1) MATERIAL: 6061-T6, 0.063 THICK
(QQ-A-250/11, REF DART SPEC
M6061T6S.063)
- 2) FINISH: CHEMICAL CONVERSION COAT
PER DART QSI 005 4.1
POWDER COAT BLACK (4.3.5.7) PER
DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.005 TO
0.010
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018
UNLESS OTHERWISE NOTED

4.214
R0.25 (TYP)
3.339
R0.38
(TYP)

5.494

R2.75
(TYP)

D3243-1
FLAT PATTERN

R0.50
(TYP)

0.500
0.000

0.750
0.500
0.000

Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

2. GENERAL NOTES

COMPATIBILITY

Compatibility of this installation with the aircraft is the **responsibility of the installer**. Ensure that this installation does not conflict with a previous modification.

CONTINUING AIRWORTHINESS

This installation should be maintained in accordance with the Instructions for Continued Airworthiness ICA-D044-715.

3. INSTALLATION INSTRUCTIONS

To install the Dart Cargo Mirror Installation on the R44 skidtube:

1. Locate the D3243-041 Bracket with approximately 0.38" (10mm) space between the top of the skidtube and the bracket, as shown in Figure 2. Transfer drill the 4 holes from the bracket to the centerline of skidtube and enlarge to 10/64" (Ø0.297"). Deburr holes and wet install ALS7-1032-130 inserts using MIL-P-85582 or MIL-P-23377 primer.
2. Install the D3243-041 Bracket on the skidtube using the AN3 hardware. The bolts should be sealed with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant before installing as per Figure 2.
3. Install remaining hardware per Figure 2 as required. Adjust the angle of the D2010-104 Arm and tighten the AN526C1032R10 screws to secure arm.
4. To adjust the mirror: loosen (DO NOT REMOVE) the three adjustment screws shown in Figure 2, reposition the mirror, then tighten the screws.

4. WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D044-715-011	1.3 lb	41.7 in	54.2 lb-kG	32.0 in	41.6 in-lb
Cargo Mirror Installation	0.59 kg	1.06 m	0.63 m-kG	0.81 m	0.48 m-kG

5. PARTS LIST

Qty	Part Number	Description
X	D044-715-011	CARGO MIRROR INSTALLATION
2	D1048	Clamp
2	D1049	Saddle
1	D2010-104	Arm
1	D2011-101	Mirror
1	*D3014-1	Locknut
1	D3243-041	Bracket
4	ALS7-1032-130	Insert (or AKS7-1032-130, AKS4-1032-130, ALS4-1032-130)
4	AN3-4A	Bolt
4	AN526C1032R10	Screw (or AN526-1032R10)
4	AN960JD10L	Washers
1	*AN960JD416L	Washer

* PARTS ARE INCLUDED WITH D2011-101 MIRROR

Work Order ID 147247

Wednesday, April 05, 2017 2:49:22 PM

147247

Page 1

Item ID: D044-715-011 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: R44 Cargo Mirror
 Start Date: 4/6/2017 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 4/13/2017 Req'd Qty: 1.00 ***1*** Customer:
 Reference: SCHEDULED

Approvals: Process Plan: Date: APR 05 2017 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3243	Rev A	APR 05 2017							
IIN-D044-715	Rev A								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPPD044-715-011		CHG003						
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

CB

DAS
21
9-89

APR 05 2017